

Gulfco - Calculation of Sediment Preliminary Screening Values Protective of Human Health (fish ingestion)

Target Risk Level:  
 Body Weight (kg):  
 Target Hazard Quotient:  
 Ingestion Rate (kg/day):  
 Exposure Frequency (days/year):  
 Exposure Duration (years):  
 Averaging Time (carcinogen) (days):  
 Averaging Time (non-carcinogen) (days):  
 Fraction of Organic Carbon in Sediment:  
 Fraction of Lipids in Fish & Crab:  
 BSAF: biota-sediment accumulation factors, chemical specific (unitless)

RBEL for carcinogens (mg/kg): (RL x BW x ATc) / (SFo x IF x EF x ED)  
 RBEL for non-carcinogens (mg/kg): (HQ X BW X RFDo X ATnc) / (IR X EF X ED)

Screening Value (organics): (RBEL X OCsed) / (Lipid x BSAF)  
 Screening Value (metals): (RBEL) / (BSAF)

Compound	Maximum Site Concentration (mg/kg)	Detected Background Concentration (mg/kg)	Chemical Hazard Index for Releases	Calc Screening Value (mg/kg)	Cancer Slope Factor Oral (mg/kg-day)	Reference Dose Oral (mg/kg-day)	BSAF (unitless)	Is Fish/Crab Analysis Required?
antimony	8.14E+00	7.33E+00	8.325	3.37E+00		4.00E-04	2.90E-01	Yes - concentration exceeds screen & background
arsenic	7.62E+00	9.62E+00	na-below background	4.63E+00	1.50E+00	3.00E-04	1.62E-01	No - below background
beryllium	8.20E-01	1.32E+00	na-below background	2.57E+01		2.00E-03	1.90E-01	No - below background
chromium	1.44E+01	2.25E+01	na-below background	1.75E+05		1.50E+00	2.10E-02	No - below background
copper	1.26E+01	1.68E+01	na-below background	9.78E+01		4.00E-02	1.00E+00	No - below background
lead	3.23E+01	1.45E+01	30.729	1.26E-01	8.50E-03	4.30E-04	8.35E+00	Yes - concentration exceeds screen & background
mercury	3.60E-02	3.00E-02	0.171	6.57E-02		8.60E-05	3.20E+00	No - concentration below screen
nickel	1.67E+01	2.73E+01	na-below background	9.05E+02		2.00E-02	5.40E-02	No - below background
silver	5.40E-01	0	0.044	1.11E-02		5.00E-03	1.10E+03	Yes - concentration exceeds screen & background
zinc	9.26E+01	5.41E+01	0.126	6.67E+02		3.00E-01	1.10E+00	No - concentration below screen
chlordane, gamma	8.30E-04	0	0.000	0.3*	3.50E-01	5.00E-01	1.18E-05	No - concentration below screen
4,4 DDE	5.41E-04	0	na-carcinogen	3.73E-04	3.40E-01		6.40E+00	Yes - concentration exceeds screen & background
4,4 DDT	3.32E-03	5.70E-04	0.003	1.47E-02	3.40E-01	5.00E-04	1.63E-01	No - concentration below screen
acenaphthene	7.22E-02	0	0.000	1.69E+02		6.00E-02	1.24E+01	No - concentration below screen
anthracene	1.07E-01	0	0.000	9.44E+00		3.00E-01	1.11E+01	No - concentration below screen
benzo(a)pyrene	6.34E-01	0	na-carcinogen	1.08E-02	7.30E+00		1.03E-02	Yes - concentration exceeds screen & background
benzo(a)anthracene	5.41E-01	0	na-carcinogen	5.67E-02	7.31E-01		1.96E-02	Yes - concentration exceeds screen & background
benzo(b)fluoranthene	6.11E-01	3.69E-02	na-carcinogen	9.36E-02	7.30E-01		1.19E-02	Yes - concentration exceeds screen & background
benzo(g,h,i)perylene	5.09E-01	0	0.007	3.27E+01		3.00E-02	3.20E-01	No - concentration below screen
benzo(k)fluoranthene	5.66E-01	0	na-carcinogen	9.28E-01	7.30E-02		1.20E-02	No - concentration below screen
chrysene	6.53E-01	0	na-carcinogen	5.48E+00	7.30E-03		2.03E-02	No - concentration below screen
dibenz(a,h)anthracene	2.35E-01	0	na-carcinogen	1.56E-02	7.30E+00		7.15E-03	Yes - concentration exceeds screen & background
fluoranthene	9.08E-01	0	0.009	4.37E+01		4.00E-02	3.20E-01	No - concentration below screen
fluorene	6.77E-02	0	0.001	8.95E+01		4.00E-02	1.56E-01	No - concentration below screen
hexachlorobenzene	3.19E-02	0	0.016	2.12E-03	1.60E+00	8.00E-04	2.40E-01	Yes - concentration exceeds screen & background
indeno(1,2,3-cd)pyrene	7.70E-01	0	na-carcinogen	3.49E-01	7.30E-01		3.19E-03	Yes - concentration exceeds screen & background
methyl naphthalene, 2-	2.89E-02	0	0.003	3.00E-01		4.00E-03	4.65E+00	No - concentration below screen
phenanthrene	6.91E-01	0	0.009	1.59E+02		3.00E-02	6.59E-02	No - concentration below screen
pyrene	1.01E+00	0	0.014	5.99E+01		3.00E-02	1.75E-01	No - concentration below screen
Total HQ =				39.459				

\* Screening Level is the US FDA Action Level (Sec 575.100), which is lower than the calculated screening level



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